

1855

1955



THE PANAMA CANAL
REVIEW



Centennial Edition

BALBOA HEIGHTS, CANAL ZONE, JANUARY 28, 1955

5 cents

"THE LAST RAIL WAS LAID AND THE FOLLOWING DAY A LOCOMOTIVE PASSED FROM OCEAN TO OCEAN"



Summit, later Culebra, was the terminal of the Panama Railroad in 1854. Just beyond Summit, at midnight, January 27, 1855, the last rails of the first transcontinental railroad were laid. The next day, the first train ran across the Isthmus.

The Present

Isthmians from both coasts and from both sides of the invisible border between the Canal Zone and the Republic of Panama will join today in celebrating the centennial of the Panama Railroad.

A special train, commemorating the first railroad crossing of the American continent 100 years ago today, will leave Colon station at 3:35 p. m. It will stop at Mount Hope station, Gatun, and Gamboa, arriving at Balboa at 5:05 p. m. for the ceremonies which will dedicate locomotive 299 as a railroad memorial. The memorial's location near the Balboa Heights station was selected by the public.

The special train, of 16 cars, will be drawn by one of the Panama Railroad's old steam locomotives; selected for this honored job is No. 803.

Dedication Ceremonies

Among those aboard the train, all of whom have been issued special commemorative passes, will be present and former railroad men, the Canal Zone Postal Service's special Railway Mail Clerk, the press, the Cristobal High School Band, and those who will take part in today's dedication ceremony. Civic Council representatives of the various communities, throughout the Zone, will meet and board the commemorative train either at Mount Hope, Gatun, or Gamboa.

At the Balboa Heights station, the Balboa High School band will present a predication concert beginning at 4:45 p. m.

Governor Seybold will make the commemorative transcontinental trip aboard the special train and will preside over the dedication ceremonies for Old 299.

Featured on the dedication program which is scheduled to get under way upon the arrival

(Continued on page 11)

The Past

"The great connecting link of the Atlantic and Pacific Oceans is completed; the Panama Railroad is finished, and the first train has already made its appearance among us, opening up a new era of prosperity for the people of the Isthmus of Panama."

With these words, Panama's *Star & Herald* reported that the first transcontinental railroad had been finished—100 years ago today. This was a year before the first railroad crossed the Mississippi River, 14 years before the people of the United States were able to ride from coast to coast by rail.

It was about half-past three o'clock on that Sunday afternoon of January 28, 1855, when a locomotive with a stack like a funnel drew its nine cars, filled with passengers bound for California, into the railroad station on Playa Prieta, about where the Atlas Brewery now stands. Thousands of people had gathered along the tracks to see the first train and to hear the whistle which, according to the *Star & Herald*, "has at length woke up the slumbering echoes of the woods of Panama."

The last rail of the Panama Railroad's tracks had been laid the midnight before, in an unseasonable rain which, Panamanians believed, might have come because an open space had been made through the hills and woods for the railroad.

Monument To Skill And Planning

The laying of the last track at Summit—ten and a half miles from Panama City—and the operation of the first train were the last steps in a construction project which has stood for a century as a monument to American skill and planning.

No history of the Panama Railroad, however brief, could be complete without some of the records it has established.

Its original capitalization of only \$1,000,000 was multiplied

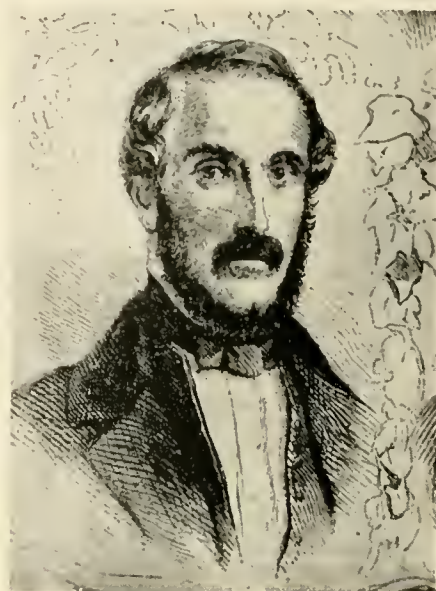
Plans And Exploration



WILLIAM HENRY ASPINWALL



HENRY CHAUNCEY



JOHN LLOYD STEPHENS

into a fortune of more than \$100,000,000 in dividends and investments. In 1868 the Panama Railroad paid its stockholders 44 percent in dividends; holders of its shares felt that they had fallen on evil days when dividends averaged only 7.5 percent in the years between 1876 and 1903. It paid almost \$24,000,000 into the Treasury of the United States between 1904 and 1949 when it was a corporation owned entirely by the United States.

In 1913 the Panama Railroad hauled 2,916,657 passengers and transported 2,026,852 tons of freight across the Isthmus; at this time it was reported to have the heaviest per-mile traffic of any railroad in the world.

For the Panama Railroad, V. I. P. could mean Very Important Passengers: United States Presidents Theodore Roosevelt, William Howard Taft, Franklin Delano Roosevelt; Queen Emma of the Sandwich Islands; Queen Marie of Roumania; princes and counts and scores of noblemen of lesser rank; Edwin Forrest, Sarah Bernhardt, and Ana Pavlova; Louis Agassiz, Samuel Clemens, Charles Farrar Browne (Artemus Ward), Richard Harding Davis; movie stars and movie companies on location.

Gold And Silver

Its cargo has been no less varied than its passengers; perfumes from France, lacquer from China, silver from Peru, lumber from Canada, automobiles from the United States, furniture from Scandinavia, cattle and sugar from Panama, have all been hauled in its freight cars. There have been guns and tanks and jeeps for the armed forces, glass-lined metal tanks for Panama breweries, bananas for the markets of the United States. At one time houses in the about-to-be abandoned Canal towns were dismantled into sections and

those sections stood on end in railroad flat cars, to be moved miles to their new locations.

During the first 12 years of its operations, the Panama Railroad carried over \$750,000,000 in gold dust, nuggets, and gold and silver coin—and collected a quarter of one percent on each shipment.

The history of the Railroad parallels the growth of the United States and the development of railway transportation.

During the early part of the nineteenth century when the steam locomotive was beginning to come into general use, men of all nations began to plan some means of simple travel between the Atlantic and Pacific oceans. The Isthmus of Panama, across which treasure-laden trains of burros had been plodding for over 300 years, was a likely spot for such a railroad crossing.

Exploration And Plans

As early as 1825, six years before the first steam locomotive drawn train ran from Albany to Schenectady, Welwood Hislop, a Jamaican merchant, asked the Congress of New Granada (later Colombia) for a concession for uniting the two oceans, either by a railway or a canal. New Granada refused him and Hislop never made a survey of the route.

In 1828 and 1829 Capt. John Augustus Lloyd of the British Army and Capt. Maurice Falmac who, although a citizen of Sweden, was in the New Granadan military service, explored the Isthmus with the idea of building either a railroad or canal; they found what they considered a practical route but were unable to raise the necessary capital to pick up the concession offered by New Granada.

By 1835 the westward trek across the United States to the Pacific Northwest had begun; President Andrew Jackson appointed Col. Charles Biddle of Philadelphia to investigate possible isthmian routes in Panama and in other parts of Central America. Biddle recommended a combined river and railroad route in Panama, combining the already existing water transport on the Chagres River with a railroad from the Chagres to Panama City. The following year, the New Granadan Congress granted him a 45-year concession for this project. Biddle, however, died shortly afterward and the syndicate he had formed was dissolved.

In the meantime, a French company was formed and contracted to build an Isthmian road. It failed to find the necessary funds and eventually lost the concession by default.

Passage To The West

Just before the turn of the half-century two events took place which greatly influenced the beginning of the Panama Railroad. The United States and the Government of New Granada signed a treaty which guaranteed, among other things, that the right of transit across the Isthmus of Panama, by any means then existing or which might be constructed, should be open and free to the government and citizens of the United States; the United States, in turn, guaranteed the neutrality of the Isthmus.

The second event was the United States' offer of contracts for the transportation of mail between Panama and Oregon in the Pacific and between New York and Chagres on the Atlantic



Hip deep in mud and water, surveyors ran the lines.

A Railroad Is Begun

coast. The latter contract eventually landed in the hands of a group, among whom was George Law, who had had experience in building canals, bridges, and railroads. The Pacific contract was granted to a syndicate headed by William Henry Aspinwall, a New York financier and a grand-uncle of Franklin Delano Roosevelt. Aspinwall's main interest was not in the Pacific Mail Steamship Company which was organized to carry the mail but in the construction of a trans-continental railroad at Panama.

In 1847 and 1848, together with John Lloyd Stephens, a lawyer, travel writer, diplomat, and explorer; Henry Chauncey, a New York businessman; and J. L. Baldwin, a civil engineer; Aspinwall explored the proposed route across the Isthmus. The party followed the valleys of the Chagres and Obispo rivers to the continental divide, where they found a 300-foot pass, and then continued down the valley of the Rio Grande to the Pacific.

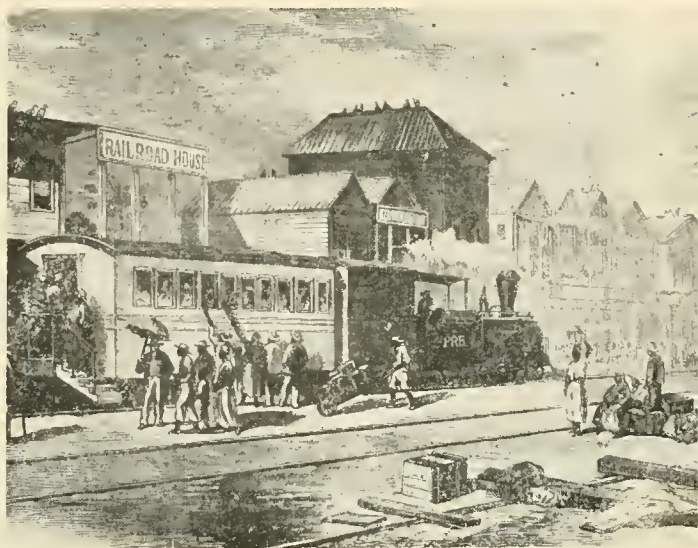
Satisfied that a railroad could be built, they began negotiations with New Granada and in December 1848, obtained an exclusive 49-year concession which left the company free to decide whether the Isthmian crossing should be all-rail, a combination of rail and ship, or a macadam road for horse-drawn vehicles. Four months later they obtained a charter for the Panama Railroad Company under the laws of the State of New York and capitalized the company at \$1,000,000. In the meantime a second group of engineers had resurveyed the route and had found a summit gap at 260 feet, some 40 feet lower than that discovered by the first party.

Headquarters At Gorgona

Believing it more feasible to build the railroad by contract than with their own forces, they let a contract to John C. Trautwine and George M. Totten, two prominent American engineers who had been working on a Magdalena River project in Colombia.

By this time the number of California-bound travellers, on their way to gold and fortune, had reached considerable proportions. In order to capitalize on this ready-made business, the railroad's pioneers decided to build the first section of the railroad from Gorgona—where passengers changed from river boats to mule trains—to the Pacific, a distance of about 30 miles. Totten and Trautwine soon found that wages and materials had so increased in cost that they would have been ruined had they tried to continue with their contract under the original terms.

The Railroad Company canceled the contract and took into its own employment the two engineers and the small force they had formed. In January 1850, construction headquarters were set up at Gorgona and two shallow draught steamers purchased for the river haul. By April Totten and Trautwine had discovered that the plan was impracticable and decided



Daily trains were soon running from Aspinwall.

to transfer the start of the railroad to the Caribbean coast.

They investigated and discarded—several alternate locations and finally decided on Manzanillo Island, a mangrove-covered swamp bordered by a coral reef, as the railroad's Atlantic terminal. Stephens left for Bogota to negotiate a new contract and Totten for Cartagena to recruit labor; Trautwine was left on the Isthmus to begin work with what labor he could collect locally.

Swamps And Fever

The little force lived on an old brig, which rocked unceasingly and nauseatingly in the Caribbean swells. Of this period, Trautwine wrote some years later: "The stifling heat and the myriads of insects in the cabin and hold of our small brig prevented other sleep than that rising from exhaustion and frequently compelled us to pass whole nights on deck, in the rain, rather than encounter the annoyances below . . . The frame houses which had been sent from New York for our accommodation were pushed forward with all the speed that the intervals between the heavy rains would admit of, but the delays from that source and from the sickness of our carpenters (of whom at one time but two out of twenty-eight were able to work) were so great that they were not ready for occupancy until the beginning of December."

At first there was no doctor with the railroad force; the first did not arrive until July 1850. And, of course, neither he nor



The Atlantic Terminal of the Panama Railroad was known for years as Aspinwall; later the name was changed to Colon.

The Railroad Crosses The Chagres



"Awful accident near Gatun bridge, nine miles from Aspinwall," the artist entitled this early Panama Railroad picture.

his later colleagues saw any connection between the malaria and the mosquito to which virtually the entire force fell victim. One of the early Railroad doctors, C. D. Griswold, wrote in 1851: "By observing proper precautions, a great deal may be done to avoid the miasma which is the *essential cause* of the fevers. Miasma is eliminated while the surface is drying, after having been saturated by an overflow of the streams or previous rains; consequently at such times, the atmosphere contains more poison than any other."

He recommended that there be fires, or some other heat, at night and that sleeping rooms be on an upper floor.

The directions, of course, were completely useless. A quarter of one early work party died of the "swamp illness," others deserted to the easier life of river boatmen.

Despite illness and hardship the work had been progressing, although slowly. In August 1850, a force of about 400 began grading the route from near the present Mount Hope station toward Gatun. Within a few months, the force was more than doubled and a second construction gang was working from Gatun back toward Manzanillo Island.

Fortunes Change

The first rails were flat iron bars, laid on stringers; later they were replaced by the inverted U-rail which was used to complete the line.

Railroad gauges were not standard in those days; a five-foot gauge was adopted for the Panama Railroad. Fifty years later the Isthmian Canal Commission contemplated a change. They found that equipment for a five-foot gauge cost little more than for a standard gauge track and, in addition, was more stable; the gauge today remains the five feet selected more than a century ago.

Between Mount Hope and Gatun, Totten and his men ran into trouble. The terrain was then, as it is today, a swampy lowland filled with mangrove trees. Clearing for a right of way was hard; finding a stable foundation was harder. Piles were driven and ton after ton of rock dumped. The work was slow and far more costly than anyone had anticipated. In 18 months only seven miles of track had been laid, the original \$1,000,000 was almost gone and the company was meeting little success in raising additional capital.

Then came the ill wind which blew good—the good in this case being good fortune for the Panama Railroad. Early in November 1851, a norther forced two steamers, the *Georgia*

and the *Philadelphia*, from their usual anchorage at the mouth of the Chagres into Limon Bay. The thousand passengers, unwilling to waste even a day on their way to fortune, saw the work trains which had been running as far as Gatun for about six weeks. They demanded transportation regardless of accommodations and price.

At 50 cents a mile and with an additional charge for their baggage, they rode to Gatun where they transferred to the river boats. From that time on the Panama Railroad carried passengers as far as its tracks extended. When the railroad was completed in 1855 it had already earned over \$1,000,000.

Tower Of Babel

In the meantime the railroad was having trouble finding labor. There were workmen from the Magdalena River, natives from the coast, West Indians, Irishmen from Cork, Germans, Coolies, and Chinese. Fever, the climate, and homesickness took their toll of each batch of new arrivals. Of one group of 1,000 Chinese, only 200 survived; those who did not die of fever took their own lives from melancholia.

But despite all this the railroad moved steadily on. By May 1, 1852, trains were running to Frijoles. Tavernilla was reached and passed. By July trains were running daily to Barbacoas on the Chagres. Men and materials were being shipped around the Horn to start work from Panama City. Twenty-three and a half miles had been built, 25 miles were still to come.

At Barbacoas the railroad was to cross the Chagres River, and here the builders met another series of misfortunes. The bridge was to be built by contract. It was only half completed when a freshet swept away one span. At the end of the year the contractor had neither bridged the river nor completed one-tenth of his assigned length of track; Totten and his engineers took over the job. But it was not until November 18, 1853, that the first train crossed the Chagres.

Three months later trains were running daily to Obispo, 18 miles from Panama City; the trip which cost \$12.50 one way took five hours. By July the tracks stretched to within a mile of Summit.

About this time the railroad was faced with a question of law and order. Brigands were regularly attacking the railroad passengers on the trail between the end of the tracks and Panama City. Acting under the powers granted by New Granada, the company hired Ran Runnels—a slim young

Troubled Times Come To The Railroad

man who had been a Texas Ranger—to organize a police force. He had been a commission merchant and agent in Panama since 1851 and for some time had been escorting his own mule trains across the Isthmus. He organized a mounted guard of about 40 and by October had run the bandits off the road.

The Last Rail

With the tracks laid from the Caribbean to a little beyond Summit, Totten concentrated all his efforts on the Panama City end. Finally, at midnight on January 27, 1855, the two gangs met, and the last rail was laid. The following day the first train ran from ocean to ocean.

The Panama Railroad had been built, at a monetary cost of \$7,407,535, and at an untold cost of hardship, sacrifice, and human life, after five years of struggle, setbacks, and discouragement.

Although its tracks spanned a continent, the railroad was still a somewhat makeshift affair and for the next four years Totten and his forces replaced the temporary construction with something more lasting. New wharves were built at the Atlantic terminal, the entire line ballasted, a telegraph line was installed, and an iron bridge replaced the wooden bridge at Barbaocoas.

The Railroad directors set what they admittedly considered a fantastic fare of \$25 for a one-way passage. To their surprise and financial advantage passengers gladly paid this fare which remained in effect for almost 20 years. By 1859 the railroad's total gross receipts for the eight years since 1851 amounted to \$8,146,605, while running expenses, including depreciation, came to a little more than \$2,000,000.

Drama And Tragedy

The Panama Railroad's early years were filled with drama, tragedy, and excitement. On April 15, 1856, 17 passengers were killed and 29 hurt in the famed Watermelon Riot. A passenger's cavalier refusal to pay a vendor for a piece of melon led an angry mob to attack about 940 passengers who had just crossed the Isthmus and were waiting for tenders to take them to their ships in Panama Bay.

Three weeks later the railroad had the worst wreck in its entire history; the final toll was 40 dead and 60 injured. A little later \$50,000 of a gold shipment mysteriously and permanently disappeared from one of the railroad's strong rooms.

The peak of the Panama Railroad's prosperity was reached in 1868 when it paid 44 percent in dividends. From 1856 to 1870 inclusive, the annual dividends never fell below 12 percent; on January 23, 1860, the *New Orleans Picayune* complained: "The Panama Railroad paid its semi-annual dividend of 6 percent as usual, making a total of 12 percent, although its business justified a 24 percent dividend. The stock closed today at 133¼."

The 10 years from 1859 to 1869 were the golden years for the Panama Railroad; historians agree that many of its sub-



General offices of the Panama Railroad were located for years in this frame building near the Colon Freight House.

sequent troubles could have been avoided by the railroad company.

Its directors made no attempt to stimulate trade and even turned away business which did not suit them. They entered into a dispute with the Pacific Steam Navigation Company which had used the railroad for its connection with the Atlantic lines. As a result the shipping company established the Straits Line and withdrew from Panama. The railroad was badly managed and soon became unsafe to travel. This was the period when its tracks were contemptuously referred to as "two streaks of rust in the jungle."

Business Declines

The completion of the Union-Pacific deprived the Panama Railroad of some of its business—but not so much as had been expected, since a thriving trade to Central America had been built up.

Its stockholders lost heart at the turn of events and at the new contract with Colombia. This called for an immediate payment of \$1,000,000 in gold and annual payments of \$250,000 for the full term of the 99-year contract. All of these things together were reflected by the stock; in a short period it dropped from over \$200 to about \$80 a share.

In the meantime, the French were (Continued on page 8)



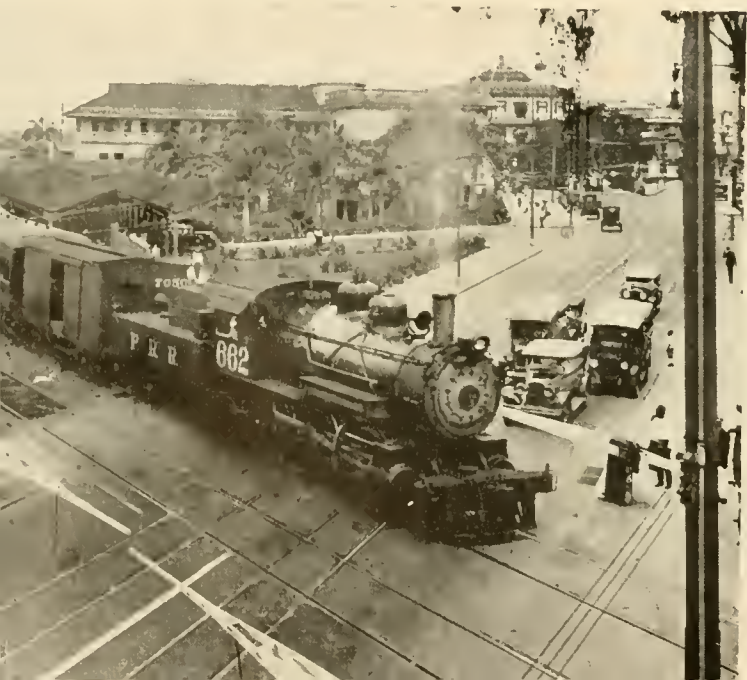
Waves of the Pacific lapped the beach near the Panama City yards; the Panama Pacific terminal is in the background.



Number 51 ran during the French days; the photograph was taken at Paraiso in 1883



Cook Works built the 200-Class; one of this type is the railroad's monument. Below, a Mogul of the 1930's. The Panama City Station in the background.



Trains Thro



Three 1,600-horsepower ALCO-GE locomotives

For just 100 years the Panama Railroad has been running trains back and forth across the Isthmus of Panama. During that time a great variety of rolling stock has made its way along the tracks which bridge the almost 50 miles between Colon and Panama.

Its locomotives have burned wood, coal, and oil; its newest stock are diesel-electric. Its cars have been luxurious affairs like the \$40,000 private cars of the French Canal Company's director, or little self-propelled "scooters," like the "Toonerville Trolley" which young



Five 1,000-horsepower, 95-ton diesel-el

h The Years



Today's trains on the Panama Railroad Line.

Oldtimers can remember. Its coaches have ranged from little box-like affairs to today's cars which can carry 68 passengers in seated comfort and a good many more than that on football and prize fight nights.

A few of the Panama Railroad's earliest rolling stock appear on other pages of this edition of THE PANAMA CANAL REVIEW.

Here are eight of the locomotives and a few of the cars which have done valorous service at one time or another in the Panama Railroad's later days.



Locomotives were purchased in 1940.



Mogul 100-Class locomotives were sturdy workhorses; this class was junked in 1915.



Belgian locomotives were rebuilt at the Empire shops for Canal work; 1910. Below, a locomotive of the late 1940's leaves the tunnel under Miraflores Hill.



Busiest Railroad In The World

(Continued from page 5)

developing plans to build an Isthmian canal. On March 20, 1878, Lucien B. Wyse, a lieutenant in the French Navy and a grandson of Lucien Bonaparte, obtained a concession from Colombia to build a canal across Panama. Immediately he arranged to secure control of the railroad. The French company purchased 68/70ths of the outstanding stock for \$17,135,000 and assumed the railroad's outstanding bonds. The general offices of the Panama Railroad, however, remained in New York, the officers and directors were predominately Americans appointed by the French and the company's business was transacted in English.

During the period of French control, the railroad's equipment was increased and improved; the French Company's director general rode in a \$40,000 car. A start was made on relocating the track to get it clear of Culebra Cut.

Early in the 1890's, the French began construction of a branch line from Diablo to La Boca, dredged the Pacific terminal basin and started an extensive maintenance program. Work was started on a port and pier in La Boca, the only port between Callao and Mexico where ships could dock at low tide.

In 1893 the Panama Railroad went into the red for the first time, although its directors claimed that its earnings were enough to pay expenses and fixed charges. It paid no dividends from 1895 through 1900, but by 1901 dividend payments were resumed. These amounted to 2 percent in 1901, 4 percent in 1902, and 8 percent in 1903, the year in which Panama revolted from Colombia to become an independent republic.

Under American Ownership

On May 4, 1904, the United States received from the French their Isthmian rights and properties. Among these were 68,887 of the 70,000 shares of the Panama Railroad Company; 47.65 miles of single track between Colon and Panama; 26.07 miles of siding; 35 locomotives, 1,008 freight cars, 24 passenger cars, 5 cabooses, and 2 specie cars; the Island of Manzanillo and the 70 railroad-owned buildings there; and about 26 buildings in Panama City.

With this transfer the Panama Railroad returned to United States control and began one of the most vigorous periods of its life.

The remaining shares of stock were purchased; the Isthmian Canal Commission recognized that it would be a "large and valuable adjunct" during the construction of the Panama Canal. It was not until 1905, however, that the railroad began to be put into shape to enable it to do its part in the building of the Canal.

John F. Stevens, Chief Engineer for the Isthmian Canal Commission, had been Chief Engineer and Vice President of the Chicago, Rock Island & Pacific Railroad. He considered transportation the key to the canal construction. He halted all excavation until the transportation system was in order, began the double-tracking of the road for its entire length except over Culebra Hill and in the Gatun-Mount Hope section, and replaced all of the 56-pound rail with 70-pound metal.

No Collisions

In 1905 he reported: "The Panama Railroad is very largely a creature of the canal . . . and the construction of the latter in the absence of the railroad would be practically impossible." He deplored its condition, adding: "As near a state of paralysis existed as it is possible to conceive. About the only claim for good work heard was that there had been no collisions for some time. A collision has its good points as well as its



President Theodore Roosevelt toured the line of the Panama Railroad when he visited the Isthmus in November 1906.

bad ones—it indicates there is something moving on the railroad."

In 1906 a lock-type canal was decided upon. This meant that the railroad would have to be relocated since its original location from Gatun to what is now Gamboa would be under water when Gatun Lake was filled.

So that it would not cross the canal, the railroad was to be placed entirely on the east side, with its rails laid on a berm 40 feet wide and 10 feet above water along a ledge on the east side of Culebra Cut. This plan was abandoned when slides in the Cut as the excavation proceeded made it clear that the berm was not a safe location; it would have been possible for both railroad and canal to have been blocked at the same time.

The relocation of the railroad was almost as much of a project as its original construction. The first tracks had followed the easiest contours of the terrain. The engineers were asked to raise it to a certain elevation and keep it there, in country that did not favor that method of location. Before the entire new line was finished about 10 million cubic yards of fill had to be made, a tunnel built at Miraflores, and the Chagres bridged at Gamboa.

To complicate the project still further, the original line was hauling tremendous quantities of material. All of the dry earth used in building Gatun Dam was hauled from Culebra Cut, 25 miles away. The bulk of materials—cement, steel, and lumber—for the construction work plus the supplies for the day-to-day living of the Canal force was brought from New York and transshipped by railroad "along the line." In 1908, for instance, the railroad reported 281,820,000 ton miles of dirt and 45,936,204 ton miles of commercial tonnage.

Canary Yellow Trains

The equipment needed for such herculean tasks was far greater than at any previous period of the railroad's history. In 1908 the railroad owned 82 locomotives, including a dozen 10-wheel Mogul oil-burners, and 1,215 cars; the latter included two hospital cars and three special cars. The locomotives were painted a sedate black but the coaches, refrigerator cars, and all boxcars used in the passenger service were canary yellow. The special private cars, however, were a dignified "standard Pullman color."

Passenger traffic was heavy. The railroad's peak year was 1913 when it hauled 2,916,657 passengers. A good many of them were tourists for whom special trains were run right to the heart of the construction areas, a good many were residents bound back and forth between towns—the Canal Zone had almost no roads and fewer automobiles, but the bulk of them were construction workers going to or from their jobs.

The old railroad line was kept in operation up to almost the last day before the rising waters of Gatun Lake flooded the track in 1913. When Gamboa dike was blown up the line on the west side of the Canal became a spur, connected with

Work trains hauled material to and dirt from the Canal excavation; this is the lower chamber of Miraflores Locks.



The Hundred Years End

the main line by a track across the Paraiso trestle. After the Canal was opened to ship traffic in 1914 a pontoon bridge replaced the trestle until 1920 when the Canal crossing was finally abandoned.

As the Canal construction drew to a close, the future of the Panama Railroad was in doubt. Finally, on June 19, 1913, the Railroad's Board of Directors, practically all of them members of the Canal Commission, decided that "the operation of the railroad over the Isthmus was both a military and commercial necessity." All new construction and equipment was to be of a permanent nature.

During Years Of Peace

From almost its beginning the Panama Railroad had provided quarters, hospitals, commissaries, and recreation facilities for its forces. It owned the hotels which housed visitors and the telephone system. After the formation of the Canal organization in 1914, the Railroad continued ownership of many of these, and its business operations were closely meshed with those of the Canal enterprise. But, back to the railroad itself.

Prior to the opening of the Canal, the Panama Railroad had operated as a co-carrier for a number of steamship lines, handling cargo to be transshipped across the Isthmus. During 1915 and 1916 it resumed this role when a series of slides closed the waterway for eight months. For several months during this period the Atlantic side terminal handled 10 percent more cargo than it had in the peak days of 1912.

During the depression years of 1921 and 1922, following the end of World War I, the Panama Railroad showed a deficit for the first time. Business conditions gradually improved and by 1927 the railroad began a program of track renewal which continued for the next dozen years. In 1937 the standard rail for the main track was changed from 90 to 100 pounds; the completed main track mileage consists of about 17 miles of 100-pound track and 34 miles of 90-pound rail.

Between 1936 and 1939, the main track was rebalasted by stripping out the original run-of-bank gravel which was fouled with dirt and no longer afforded proper drainage. The main track was raised on a lift of crushed stone ballast from the Sosa Hill Quarry in Balboa.

Wartime Boom

These rehabilitation measures paid off when the Panama Railroad traffic was tremendously increased with the beginning of the later-abandoned third locks project, with the pre-war construction projects, both civilian and military, and with the heavy loads of the World War II years.

Forty-eight old banana and boxcars were converted into labor cars; during the peak of the wartime projects, in 1943, labor trains carried 30,000 workers to and from their jobs each day. By 1942 the freight load had increased by almost 500



Banana cars and freight cars were converted to haul laborers during the busy pre-war and World War II period.

percent over the pre-war years and freight terminals were packed with cargo. Passenger traffic skyrocketed; in fiscal year 1943 it totaled 1,146,899—the heaviest year's cargo since the end of the Canal construction period.

Between 1939 and 1942, to replace equipment over 30 years old, the railroad bought five new 701-class steam locomotives for the freight and passenger service, five new 401-type diesel locomotives for freight use, together with 130 boxcars, flatcars, and gondolas. The railroad's most recent acquisition is several ALCO-GE locomotives which have been in use since 1953.

Almost 100 years of life for the Panama Railroad as a corporation under the laws of the State of New York ended June 30, 1948. On that date, by Act of Congress, the Panama Railroad became a corporation of the United States. Its stock was consolidated into one share, that share to be held by the Secretary of the Army. But, as in the case of the old corporation, its affairs continued to be directed by a board of 13 and the Governor of the Canal Zone continued as its president.

Panama Canal Company Formed

Three years later, however, the Panama Railroad went out of business as a separate entity. Its operations were merged with the business operations of the Canal enterprise and a new Company was formed. Today, the Panama Railroad is an auxiliary and supporting service of the Panama Canal Company. It operates four passenger trains in each direction across the Isthmus daily; two freight runs are made an average of six days a week. It transports about half a million passengers and hauls a quarter of a million tons of freight each year.

Passenger traffic is heaviest, of course, during the dry season when the railroad carries thousands of visiting tourists. If today were an ordinary day, which it isn't, the passenger load would be 1,188 and the cargo load would be 585 tons of revenue freight, according to figures from the Railroad Division.

The railroad force totals 468, of whom 374 are on the local-rate rolls. The road has 36 passenger coaches, 578 freight cars, and a number of baggage cars, tank cars, flatcars, wreckers, cabooses, and other rolling stock. A trip across the Isthmus by Panama Railroad takes one hour and 25 minutes; one-way first class fare is \$1.25.

But behind its routine of daily operations there are a hundred glorious years of history—a history of railroading and a history of American development.

In *And the Mountains Will Move*, Commander Miles P. DuVal, Isthmian historian and one-time Balboa Port Captain, summarizes the Panama Railroad:

"The railroad stimulated United States commerce and hastened the settlement of the West. It gave to Panama a tremendous advantage in the choice of a route for the first canal. It educated engineers in the geography of the Isthmus and interested them in the problems of an Isthmian canal. It was the first step in constructing a waterway, forever placing the builders of the Panama Railroad as the real pioneers of the Panama Canal."



Railroad men called this the Big Tree; the little car carried inspection parties along the Railroad line.

Senior Men Will Run Today's Special



Senior Engineer is B. W. McIntyre, a second generation Panama Railroader. His first railroad job was as a clerk in the Pedro Miguel railroad yard during construction days.

"In 1850, Surveyor Brown worked 297 days at \$3.75 a day. How much money did he earn that year?"

Senior men of the Panama Railroad's force will be in charge of the special train which crosses the Isthmus of Panama today, just 100 years after the first train ran across the American continent, from Atlantic to Pacific Ocean.

At the controls of the steam locomotive pulling the special commemorative train will be Bernard W. McIntyre, senior of the Panama Railroad's engineers and himself a second-generation railroad man. His father was a conductor on the Railroad's Central Division during construction days.

The conductor in charge of today's special train will be Clarence B. McIlvaine, who started railroading in 1926 with the Cleveland Southwestern Railroad in Ohio. He has been a conductor on the Panama Railroad for 23 years.

Mr. McIntyre had his first personal experience with trains—other than riding on them—when he was only 15 years old. His first summer job was as a clerk in the Pedro Miguel yard office from which some 80 locomotives pulled out each morning,



These two run the Panama Railroad. B. I. Everson, left, is Director of the Transportation and Terminals Bureau and Edward N. Stokes is Superintendent of the Railroad Division.



Senior Conductor C. B. McIlvaine gives a hand to a local heroine Miss Aminta Melendez of Colon. During the 1903 revolution she rode a P. R. R. engine carrying dispatches,

to haul the dirt trains in the cut.

R. I. F. — By History

A little later he went to work full time as a towerman, directing the dirt trains out of Pedro Miguel. History has made much of the event which ended that job. His formal notification said, in part:

"There will be a general cessation of work in the Central Division on October 10, 1913, on account of the admission of water into Culebra Cut, and you are hereby notified that your services will be dispensed with on or before that date."

As he recalls it today, he was just about the last person out of the Cut. "The last shovel was moved out," he says. "Then I left."

For a while he worked with the Mechanical Division and then served in the Army during World War I. Returning to the Isthmus he foresook railroading for a time, to drive the Governor's car, but in 1923 he went to the United States and for the next nine years worked on the Southern Pacific out of Los Angeles. He has been an engineer for the Panama Railroad since 1935.

Most of the time, he says, he has "lived just the average life of a railroad engineer," but he does admit to one out-of-the-ordinary experience.

During the late 1930's he was on a locomotive pulling a pay car, well-loaded for its day's work. The locomotive collided head on with two engines. Coins, bills, and the guns with which the pay-car guards were armed were scattered all around.

On Roosevelt Train

Railroad men must be modest, as a rule, for Mr. McIlvaine, today's special train conductor, also claims nothing unusual about his career. He came to the Canal Zone in 1930, after four years of railroading in Ohio, and worked briefly for the Commissary Division. He transferred to the railroad in 1931 as a collector and has been a conductor since 1932.

He was one of a hand-picked crew which brought President Franklin D. Roosevelt's special train across the Isthmus on one of the presidential visits here in the late 1930's. The President boarded the train at Gatun and left it at Miraflores. Other than the special's Very Important Passenger and the fact that the train was preceded by a pilot engine, Mr. McIlvaine remembers nothing unusual about that trip.

Although they will not be in the crew of today's commemorative train, several other railroad men are second generation Panama Railroaders.

Herbert W. Rose and John F. Frensey, Jr., Panama Railroad engineers, are the sons of A. V. Rose and J. F. Frensey, Sr., former Panama Railroad conductors. John B. Morton of the Balboa roundhouse is the son of Brett A. Morton, a conductor during the construction period. L. E. Neal, father of Gerald L. Neal, a present-day conductor, was the Panama Railroad's Master of Transportation at the time of his retirement in 1949

Schools, Posts, Celebrate Centennial

"During one week, 649 passengers rode across Panama at \$25 a head. How much money was collected?"

From questions such as these the history of the Panama Railroad has become a live subject for the boys and girls in the Canal Zone schools.

The Canal Zone children have learned to spell "exploration," "mosquito," "engineer," as common words, and such names as "Aspinwall," "Stephens," and "Chauncey."

In English classes they have written letters, applying for jobs on the Panama Railroad in the 1850's as construction engineers, railroad engineers, doctors, and laborers, and made up imaginary conversations between two or three travelers on their way to California—by Panama Railroad, of course.

Songs And Stories

They have staged pantomimes depicting the placing of the last rail at Summit on a dark rainy midnight in January 1855, or a ride on the first train across the completed railway.

In art classes they have painted pictures of various phases of the Panama Railroad construction story, built old-fashioned trains from old boxes and pieces of cardboard, or made scrap-books of trains. The music classes have found songs in their song-books which the construction gangs might have sung, and the science classes have reported on how a locomotive works.

All of these projects, and many more, were suggested in a teaching unit prepared for the Canal Zone schools by Mrs. Cleone Treffinger, who teaches third grade at the Balboa elementary schools when she is not delving into the history of the Panama Railroad.

She read books of history and books on railroading, scanned old records and talked to railroad men to prepare the material which has been put together in 29 single-spaced mimeographed pages. She did research in the Canal Zone library and further digging for facts in the files of the Panama Canal Press Office and talked with art and music supervisors to get their suggestions.

The material she prepared was translated into Spanish for use in the Spanish language schools. While it was aimed primarily at children in the fourth, fifth, and sixth grades, there was material included which could be used for the lower grades or in the secondary schools.

The subject matter, according to schools officials, was well received by the youngsters who were learning history the painless way—if anyone can consider arithmetic problems and spelling bees painless.

Up to January 21, over 10,000 orders had been received by the Canal Zone Postal Service for first-day covers which will be issued today in commemoration of the 100th Anniversary of the Panama Railroad.

Commemorative stamps, bearing a picture of one of the Railroad's earliest locomotives, go on sale today in all Canal Zone post offices. The covers mailed from Balboa Heights will all bear the Railway Mail Service cancelation, as will any deposited in the mail car on today's commemorative train.

The special cancelation will be the first time the railway cancelation has been used since the railway mail service was suspended more than a year ago.

The Postal Service's senior employee, Harry W. Peterson, a postal clerk at the Cristobal post office, will be the railway mail clerk on the commemorative train today. In addition to his service with the post offices, which dates back to 1917, he is an old railroad man. His first Isthmian job was as a clerk in the Railroad's Receiving and Forwarding Agency in 1916.

One Million Stamps

One million of the purple three-cent stamps, issued in commemoration of the Railroad's anniversary, were ordered.

Each stamp is approximately 0.85 by 0.98 inches, in horizontal format. They are issued in sheets of 70, perforated all around and with the plate numbers on each sheet.

The stamp was designed by Leo C. Page, Chief of the Architectural Branch of the Engineering Division. Victor S. McLoskey, Jr., of the staff of the Bureau of Engraving and Printing, prepared a model. Others of the Bureau's staff who were connected with preparation of the stamp were Matthew D. Fenton, who engraved the picture, and Reuben D. Barrick, who did the lettering and numerals.

The design for the commemorative stamp is based on a woodcut which appeared in *Harper's Weekly* of January 1859. It portrays one of the Panama Railroad's earliest locomotives, against a background of tropical foliage.

The two upper corners bear the centennial dates in white on a dark background; the denomination—3 cents—appears in blocks in the lower left- and right-hand corners, with the words "Canal Zone Postage" between the denomination blocks.

Two former Governors of the Canal Zone, who also served as Presidents of the old Panama Railroad Company, visited the Bureau of Engraving during the time when stamps were printed and saw sheets of the new issue run off.

The Present

(Continued from page 1)

of the special train at 5:05 p. m. will be Roberto Heurtematte, Comptroller General of the Republic of Panama, who was, until recently, Panama's Ambassador to the United States, and Fred deV. Sill, prominent old-timer who is well-versed in Isthmian history. Two Atlantic side ministers, the Rev. Paul H. W. Olander of the Margarita Union Church and the Rev. James M. Kelly, C. M., of the Holy Family Church at Margarita, will deliver the dedicatory prayer and the benediction, respectively.

Immediately following the half-hour program, those attending the ceremony will be invited to look over Old 299 and one of the Railroad's latest Diesel locomotives. The Railroad will have special guides at the Balboa Heights station.

The special train will leave from the Balboa Heights Station at 6:15 p. m., on its return trip to Colon.

Although the ceremonies dedicating Old 299 and the commemorative railroad trip aboard the special train will be the highlights of the day, other events have been planned to make January 28 a real Centennial Day.

The Canal Zone Society of Model Railroad Engineers, better known as the Corozal Railroad Club, has arranged a model train exhibition which is on display in the lobby of the Balboa Theater. The exhibition has been set up with the cooperation of the Service Center Division.

In the lobby of the Civil Affairs Building at Ancon, the Library Museum has arranged a display of unique old writings on the Panama Railroad's early days. These include the journal of William H. Sidell, who surveyed the railroad route in 1849; newspaper accounts of the opening of the railroad; letters from John C. Trautwine and William H. Aspinwall, and an extensive collection of photographs and maps.

The Cristobal and La Boca libraries have on exhibition photographs and maps; the smaller libraries are displaying photographs and newspaper clippings pertaining to the centennial.

The Canal Zone Boy Scouts have keyed their program around railroading during the past month and students in the

Canal Zone schools have been studying the Panama Railroad's history in arithmetic, English, art, and music classes.

During the day today, every passenger who crosses the Isthmus by Panama Railroad will be presented with a special commemorative souvenir pass; it was designed by Leo C. Page, Chief of the Architectural Branch, who also designed the commemorative stamp, and printed at the Mount Hope Printing Plant. Done on gold paper—for the Gold Rush Days—the passes are ornamentally lettered and carry a sketch of an early Panama Railroad train.

Tonight, Railroad employees will be guests of honor at the first interscholastic baseball game of the year. The game between Balboa and Cristobal high schools will begin at the Balboa Stadium at 7:30, with pre-game ceremonies starting at 7:20. A railroad engineer and a railroad conductor will be pitcher and catcher for the first ball.

Reported in detail elsewhere in this edition of THE REVIEW is the issuance of a commemorative postal stamp, honoring the Panama Railroad centennial, on sale in all Canal Zone post offices today for the first time.

For today only, the Railway Mail cancelation, which has not been used since the service was suspended over a year ago, will be used on all letters crossing the Isthmus by train. The Postal Service's senior employee, Harry W. Peterson of the Cristobal Post Office, is serving as Railway Mail Clerk.

The dedicatory program for Old 299, the railroad memorial at the Balboa Heights railroad station, follows:

"Stars and Stripes Forever".....	Joint Balboa-Cristobal High School Band
Presiding.....	Governor J. S. Seybold
Dedicatory Prayer.....	The Rev. Paul H. W. Olander
Remarks.....	Fred deV. Sill
Message.....	Roberto Heurtematte
Himno Nacional de la Republica de Panama.....	Joint Band
National Anthem of the United States.....	Joint Band
Benediction.....	The Rev. James M. Kelly, C. M.

A Tribute On A Centennial



For miles the Panama Railroad winds along the shore and across arms of Gatun Lake.

ONE HUNDRED YEARS AGO TODAY the first railroad train made what was then a hazardous and exciting fifty-mile transcontinental trip across the Isthmus of Panama.

It was one of the most significant events in the history of transportation in the New World. As we celebrate today the centennial of this achievement we can trace with remarkable clarity the marked influence of the completion of the Panama Railroad upon events and progress of this immediate area and its connections with the vast development and expansion of the nations of the Western Hemisphere.

This is the third notable anniversary which we people of the Isthmus, Americans and Panamanians, have celebrated together within a few months' period. The other two were the founding of the Republic of Panama on November 3, 1903, and the beginning of the Panama Canal construction by the United States on May 4, 1904.

These three historic dates are inseparably joined. The completion of the Panama Railroad served further to focus world attention on the strategic importance of the Isthmus for world commerce. From January 28, 1855, forward, the Panama Railroad played an important part in the development of the Isthmus, in the actual founding of the Republic of Panama, in the construction and operation of the Panama Canal.

Colon, the second largest city of the Republic and its most important inlet for water-borne trade, traces its birth to the successful building of the Panama Railroad.

The completion of a rail link between the Atlantic and Pacific Oceans 100 years ago had a profound influence in the settlement and development of our "Golden West" and upon the commerce of Central and South American nations bordering the Pacific Ocean. It saved many months of weary tacking by soiling ships on the perilous voyage around the Horn. A trade route was securely established which could handle both products for development of the Western American lands and provide that reasonable surety of transportation without which no progress can be attained by isolated communities.

In considering its distinguished record of interrupted service for 100 years, it is well to remember that the Panama Railroad was completed and in operation for 14 years before the first transcontinental train crossed the United States and only 25 years after the first locomotive train ran in the United States.

The completion of the Panama Railroad 100 years ago today was an engineering achievement of the highest order. The laying of 50 miles of track across mountains, over turbulent streams, and through trackless jungles would be no great problem today with the engineering knowledge, machinery, and sanitation methods available. Such was not the case, however, a century ago and the construction of the roadbed with its flimsy cast-iron rails was made possible only through the indomitable courage of its builders and by costly sacrifices of life.

When we contemplate this phase of the history of the Panama Railroad, those of us who are intimately connected with its operation today take deep pride in the glowing record which has been established through the years which have passed since the first train rattled across the Isthmus.

On the centennial of the first train trip across the Isthmus of Panama which we celebrate today, we commemorate an event of high import in the history of our own nation and that of the Republic of Panama—an event which served to bind together the destinies and friendship of the people of both countries.

In this special issue of THE PANAMA CANAL REVIEW we trace in sketchy outline the glowing history of 100 years of the Panama Railroad. But, more importantly, we pay tribute to those who participated in building the railroad and those who have had a part in its long and successful history.

J. L. Snydler

